

ALGORITHM

Step 1: Start the program.

Step 2: Define a structure student with the following data members:

Roll number

Name

Marks of three subjects (m1, m2, m3)

Total marks

Percentage

Grade

Result

Step 3: Read the number of students n.

Step 4: For each student from $i = 0$ to $n-1$, perform the following:

Read roll number and name.

Read marks of three subjects.

Calculate total marks = $m1 + m2 + m3$.

Calculate percentage = $\text{total} / 3$.

Determine grade using percentage:

If percentage $\geq 90 \rightarrow$ Grade A

Else if percentage $\geq 75 \rightarrow$ Grade B

Else if percentage $\geq 60 \rightarrow$ Grade C

Else if percentage $\geq 40 \rightarrow$ Grade D

Else \rightarrow Grade F

If grade is F, set result as FAIL, otherwise PASS.

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Step 5: Sort all student records in ascending order of roll number.

Step 6: Display the student details in tabular format showing:

Roll number

Name

Total marks

Percentage

Grade

Result

Step 7: Stop the program.